# AK

## FATENT COOPERATION TREATY

## From the INTERNATIONAL BUREAU

## **PCT**

### **NOTIFICATION OF ELECTION**

(PCT Rule 61.2)

Assistant Commissioner for Patents United States Patent and Trademark Office Box PCT Washington, D.C.20231

ÉTATS-UNIS D'AMÉRIQUE

Date of mailing (day/month/year) 02 March 2000 (02.03.00)	in its capacity as elected Office			
International application No. PCT/SE99/00950	Applicant's or agent's file reference 110520 BER			
International filing date (day/month/year) 01 June 1999 (01.06.99)	Priority date (day/month/year) 02 June 1998 (02.06.98)			
Applicant NORDIN. Rudolf				

1.	The designated Office is hereby notified of its election made:
	X in the demand filed with the International Preliminary Examining Authority on:
	03 January 2000 (03.01.00)
:	in a notice effecting later election filed with the International Bureau on:
2.	The election X was
	was not
	made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).
:	

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland

**Authorized officer** 

Claudio Borton

Telephone No.: (41-22) 338.83.38

Facsimile No.: (41-22) 740.14.35



## PATENT COOPERATION TREATY

## **PCT**

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

10

Applicant's or agent's file reference  Le A 33 030-PC Ba	FOR FURTHER A		cation of Transmittal of International Examination Report (Form PCT/IPEA/416)	
International application No. PCT/EP99/03739	International filing da 29 May 199	tte (day/month/year) 9 (29.05.99)	Priority date (day/month/year) 10 June 1998 (10.06.98)	
International Patent Classification (IPC) or national classification and IPC A01N 47/44				
Applicant	BAYER AKTIEN	GESELLSCHAFT		
This international preliminary example Authority and is transmitted to the a			International Preliminary Examining	
2. This REPORT consists of a total of	6 sheets	, including this cover sl	neet.	
	asis for this report and/o 607 of the Administrat	or sheets containing re- ive Instructions under t	ion, claims and/or drawings which have ctifications made before this Authority the PCT).	
This report contains indications relat	ting to the following ite	ems:		
Basis of the report				
II Priority				
	t of opinion with regard	to novelty, inventive s	tep and industrial applicability	
IV \ Lack of unity of in	-	•		
Reasoned statemer		vith regard to novelty, in	nventive step or industrial applicability;	
VI Certain documents	s cited			
VII Certain defects in t	the international applica	ation		
VIII Certain observation	ns on the international a	application		
Date of submission of the demand		Date of completion of	f this report	
03 November 1999 (03.	11.99)	25 .	July 2000 (25.07.2000)	
Name and mailing address of the IPEA/EP		Authorized officer		
Facsimile No		Telephone No		

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/EP99/03739

I. Basis of the report					
1. This report has been drawn on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):					
	the international	application as originally filed.			
$\overline{\triangleright}$	the description,	pages 1-75	_, as originally filed,		
_	-	pages	_, filed with the demand,		
		pages	_, filed with the letter of,		
		pages	_, filed with the letter of		
$\triangleright$	the claims,	Nos1-5	,as originally filed,		
	7		, as amended under Article 19,		
		Nos			
		Nos.	, filed with the letter of,		
		Nos.	, filed with the letter of		
	the drawings,	sheets/fig	, as originally filed,		
<u> </u>	_	sheets/fig	_, filed with the demand,		
		sheets/fig	, filed with the letter of,		
		sheets/fig	, filed with the letter of		
2. The ame	endments have result	ed in the cancellation of:			
	the description,	pages			
	the claims,	Nos			
	the drawings,	sheets/fig			
	-				
3. To	his report has been e	stablished as if (some of) the amosure as filed, as indicated in the	nendments had not been made, since they have been considered a Supplemental Box (Rule 70.2(c)).		
4. Addition	nal observations, if n	ecessary:			



International application No.

PCT/EP99/03739

IV. Lack of unity of invention				
1. In response to the invitation to restrict or pay additional fees the applicant has:				
restricted the claims.				
paid additional fees.				
paid additional fees under protest.				
neither restricted nor paid additional fees.				
This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.				
3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is				
complied with.				
not complied with for the following reasons:				
See supplemental sheet.				
·				
4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:				
all parts.				
the parts relating to claims Nos.				



numational application No.
PCT/EP 99/03739

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: IV.3

The subject matter of Claim 1 is already known and is not inventive (see Box V for the reasons for this objection). The requisite unity of invention (PCT Rule 13.1) is not established in that there is no technical connection under PCT Rule 13.2 between the members of the groups of possible fungicides (cf. the description and the different possible classes of fungicide indicated therein) involving one or more of the same or corresponding special technical features.



rnational	application No.
PCT/EP	99/03739

V.	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
	citations and explanations supporting such statement

1.	Statement			
	Novelty (N)	Claims		YES
		Claims	1-5	NO
	Inventive step (IS)	Claims		YES
		Claims	1-5	NO
	Industrial applicability (IA)	Claims	1-5	YES
		Claims		NO

2. Citations and explanations

The application concerns mediums containing the compound of the formula (I) mixed with fungicidal agents, excluding cyclopropylcarboxamide derivatives and azolylmethylcycloalkanes. The mediums are used to control fungi and insects.

Reference is made to the following documents:

- D1: DATABASE CAPLUS [Online] Accession No. 1993:228245,

  Document No. 118:228245, Nippon Soda Co.:

  'Synergistic agrochemical pesticide compositions containing amines and ergosterol biosynthesis inhibitors' XP002900600 & JP-A-05 017 311, 26

  January 1993 (1993-01-26)
- D2: DATABASE CAPLUS [Online] Accession No. 1992:607190,
  Document No. 117:207190, Takeda Yakuhin Kogyo K.K.:

  'Insecticidal and fungicidal compositions containing
  guanidines' XP002900601 & JP-A-04 108704
- D3: WO-A-96/03045 (BAYER AG) 8 February 1996 (1996-02-08)
- D4: WO-A-97/24032 (BAYER AG) 10 July 1997 (1997-07-10)
- D5: DATABASE CAPLUS [Online] Accession No. 1993:488888,
  Document No. 119:88888, Takeda Chemical Industries,
  Ltd.: 'Agrochemical compositions containing



condensed heterocycle-containing amides and other active ingredients' XP002900602 & JP-A-05 039 205, 19 February 1930 (1930-02-19)

- D6: DATABASE CAPLUS [Online] Accession No. 1992:545353,
  Document No. 117:145353, Takeda Chemical Industries,
  Ltd.: 'Synergistic insecticide compositions
  containing guanidines and organophosphates'
  XP002900603 & JP-A-04 112 805, 14 April 1992 (199204-14)
- D7: DATABASE CAPLUS [Online] Accession No. 1992:545352,
  Document No. 117:145352, Takeda Chemical Industries,
  Ltd.: 'Synergistic insecticide compositions
  containing guanidines and carbamates' XP002900604 &
  JP-A-04 112 804, 14 April 1992 (1992-04-14)
- D8: DATABASE CAPLUS [Online] Accession No. 1992:526474,
  Document No. 117:126474, Takeda Chemical Industries,
  Ltd.: 'Synergistic insecticides containing guanidine
  derivatives' XP002900605 & JP-A-04 120 007, 21 April
  1992 (1992-04-21).

#### i. Novelty (PCT Article 33(2))

Synergistic fungicidal compositions containing the compound of the formula (I) as per the present application and other fungicidal agents are disclosed in the following documents: D1, D2, D5, D6, D7 and D8. The subject matter of Claims 1-5 is not novel over these disclosures.

#### ii. Inventive step (PCT Article 33(3))

Furthermore, the subject matter of the application is described in generic terms in the prior art - cf. D1: generic disclosure of the compound (I) in combination with EBIs; D2: (I) + ferimzone,



phthalide, probenazole, isoprothiolane, kasugamycin, edifenphos, ibrobenfos, tricyclazole, validamycin A, flutolanil, mepronil and pencycuron; D3: the same disclosure as the present application, but in a generic form; D4: an insecticidal mixture of fipronil and nicotinic acetylcholine receptor (ant)agonists — a preferred compound is the compound (IIh); D5: compound of the formula (I) with compounds of the formula QCONHCHXY; D6: compound of the formula (I) with organophosphate compounds of the formula  $R_4OP(=Y_1)(R_5)(Y_2R_6)$ ; D7: compound of the formula (I) with carbamate compounds of the formula  $R_4O_2C-NR_5R_6$ , and D8: compound of the formula (I) with benzoylurea compounds, cartap and related compounds, namely thiadiazine.

Consequently, the subject matter of Claims 1-5 cannot be considered inventive.

### INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/EP 99/03739

VII. Certain defects in the international application  The following defects in the form or contents of the international application have been noted:				
disclosed therein.				
·				



International application No.
PCT/EP 99/03739

VIII. (	Certain	observations	on the	international	application
---------	---------	--------------	--------	---------------	-------------

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

The wording of Claim 1 is very broad and speculative. It has not been shown plausibly that all of the fungicide combinations covered by the claim have a synergistic effect.



## **PCT**

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant	s or a	gent's file reference	Ţ				
110520	BER		FOR FURTHER A	CTION		ation of Transmittal of Inter Examination Report (Forn	
Internation	nal app	olication No.	International filing date	(day/month	/year)	Priority date (day/month)	/year)
PCT/SE	99/0	0950	01/06/1999			02/06/1998	
Internation A47L13		tent Classification (IPC) or na	tional dassification and IP	С			
Applicant							
ACT - A	DVA	NCED CLEANING TEC	HNICS AB, et al.				
1. This and i	interr s tran	national preliminary exami exmitted to the applicant a	nation report has been ccording to Article 36.	prepared	by this Inter	rnational Preliminary Ex	camining Authority
2. This	REPO	ORT consists of a total of	5 sheets, including this	s cover sh	eet.		
(	seen a	eport is also accompanied amended and are the basi Rule 70.16 and Section 60 exes consist of a total of	is for this report and/or 7 of the Administrative	sheets co	ontaining rec	tifications made before	gs which have this Authority
3. This i	report	contains indications relat	ing to the following iten	ns:			
11		Priority					
111		Non-establishment of op	inion with regard to no	velty, inve	entive step a	nd industrial applicabili	ty
IV		Lack of unity of invention					
V	⊠	Reasoned statement und citations and explanation	der Article 35(2) with re ns suporting such state	gard to n	ovelty, inven	tive step or industrial a	pplicability;
VI		Certain documents cited					
VII	$\boxtimes$	Certain defects in the int	ernational application				
. VIII		Certain observations on	the international applic	ation			
Date of sub	missio	n of the demand		Date of co	mpletion of th	is report	
03/01/200	00				2 4.	08. 00	
Name and r	nailing exami	address of the international ning authority:		Authorized	d officer		SON SCHES MITTING
0))	D-80	pean Patent Office 298 Munich		Papadin	nitriou, S		Standard Sta
Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465			•	No +40 80 3	000 0700	To the state of th	

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/SE99/00950

		•			
1.	res	s report has been dr conse to an invitation report since they do	n under Arti	cle 14 are	(substitute sheets which have been furnished to the receiving Office in er referred to in this report as "originally filed" and are not annexed to ments.):
	Des	cription, pages:			
	1-5		as originally	filed	
	Clai	ims, No.:			
	1-3		as originally	filed	
2.	The	amendments have	resulted in t	he cance	allation of
			roomed iir c		Side of the second of the seco
		the description,	pages:		
		the claims,	Nos.:		
		the drawings,	sheets:		
3.		This report has bee considered to go be	en establishe eyond the di	ed as if (s sclosure	some of) the amendments had not been made, since they have been as filed (Rule 70.2(c)):
4.	Add	itional observations,	if necessar	y:	
					vith regard to novelty, inventive step or industrial supporting such statement
1.	State	ement			
	Nov	elty (N)	Yes: No:	Claims Claims	1-3
	Inve	ntive step (IS)	Yes: No:	Claims Claims	1-3
	Indu	strial applicability (IA	A) Yes: No:	Claims Claims	1-3

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/SE99/00950

2. Citations and explanations

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

#### Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1) State of the art

Reference is made to the following documents:

D1: WO-A-96/10946 (cited in the description)

D2: DE-U-297 06 500

### 2) Independent claim 1

- 2.1) D1 discloses a dry-mop fabric 1 for attachment to a mop handle, cf. page 1, lines 10-11, designed to clean dry, soiled surfaces, cf. page 1, line 10; page 5, lines 29-31, the fabric being constituted of micro fibre or ultramicrofibre or filament, cf. page 4, lines 22-23, with a count of 0.3 Dtex, cf. page 4, lines 26-27, the fabric being woven with loops on one or both sides of the fabric, cf. page 2, lines 23-24; page 4, lines 11-12 and figure 1.
- 2.2) The dry-mop fabric specified in claim 1 differs from the one taught by D1 in that a loop height of 3-9 mm is specified. D1 teaches the use of long 3 and short 2 loops but is silent of a height range.
- 2.3) The objective problem underlying the present application can be regarded as the provision of a dry-mop fabric having an optimum filament loop height.
- 2.4) D2 discloses a textile cleaning and drying material, cf. page 4, lines 19-20, which may be constituted by micro fibres, cf. page 4, second paragraph, with a loop, cf. page 3, line 25, height of 1 to 5 mm, cf. page 4, lines 15-17. In the light of the teachings of D2 and of the objective problem of providing an improved dry-mop fabric than the one taught by D1 it is considered standard design procedure for a skilled person to make the height of the "shorter" loops 2 of the dry-mop fabric of D1 to fall in the range specified in subsisting claim 1. Therefore, independent claim 1 does not comply with the provisions of Article 33(3) PCT.

## INTERNATIONAL PRELIMINARY International application No. PCT/SE99/00950 EXAMINATION REPORT - SEPARATE SHEET

### 3) Dependent claims 2 and 3

These dependent claims do not contain any features which, in combination with the features of any claim to which they refer, meet the requirements of the PCT in respect of inventive step (Article 33(3) PCT), the reasons being as follows:

- 3.1) Claim 2: The subject-matter of this claim is taught by D1, cf. page 3, second paragraph.
- 3.2) Claim 3: The provision of a dry-mop fabric with filaments of a rectangular rather than a round x-section is standard design procedure.

#### Re Item VII

## Certain defects in the international application

- 1) Description
- 1.1) Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the document D2 is not mentioned in the description, nor is this document identified therein.
- 1.2) Document D1 should have been identified in line 31 of page 1 by its publication number WO-A-96/10946, not its application number.

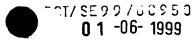


#### REQUEST

	For Formal Office use only	
International Applic	PCT/ \$E 9 9 / 0 0 9 5 0	
International Filing	<b>0 1 -06- 1999</b> Date	
	The Swedish Patent Office PCT International Application Office and "PCT International Application"	

The undersigned request that the present international application be processed according to the Patent Cooperation Treaty. 110520 BER Applicant's or agent's file reference (if desired) (12 characters maximum) Box No. I TITLE OF INVENTION Cloth for a dry mop Box No. II **APPLICANT** Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is This person is also inventor. the applicant's State (i.e. country) of residence if no State of residence is indicated below.) Telephone No. ACT - Advanced Cleaning Technics AB Facsimile No. Box 10 S-515 21 VISKAFORS Sweden Teleprinter No. State (that is, country) of residence: Sweden State (that is, country) of nationality: Sweden This person is the applicant  $\boxtimes$ the States indicated in the all designated all designated States except the the United for the purposes of: States United States of America States of Supplemental Box America only FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S) Box No III Name and address: Family name followed by given name; for a legal entity, full official designation. The This person is: address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (i.e. country) of residence if no State of residence is indicated below.) applicant only Rudolf NORDIN/ applicant and inventor Hyggesgatan 7 S-502 57 BORÅS inventor only (If this check-Sweden box is marked, do not fill in below.) State (that is, country) of nationality: Sweden State (that is, country) of residence: Sweden the States indicated in the This person is the applicant the United all designated all designated States except the M for the purposes of: United States of America Supplemental Box States States of America only Further applicants and/or (further) inventors are indicated on a continuation sheet. Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE The person identified below is hereby/has been appointed to act on behalf common representative agent X of the applicant(s) before the competent International Authorities as: Name and address: (Family name followed by given name; for a legal entity, full official Telephone No. designation. The address must include postal code and name of country.) +46 31 725 81 00 ANDERSSON Per, BERGQUIST Gunnar, BURÖ Peter, GRAUDUMS Valdis, Facsimile No. MOSSMARK Anders, ROMARE Anette, ROSANDER Bengt +46 31 711 95 55 ALBIHNS PATENTBYRÅ GÖTEBORG AB, Teleprinter No. P.O. Box 142, S-401 22 GÖTEBORG, Sweden Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Corr RojsE





Box No. V	<b>DESIGNATION OF STATES</b>

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

**Regional Patent** 

- AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SZ Swaziland, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting state of the Harare Protocol and of the PCT
- EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- EP European Patent: AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is Contracting State of the European Patent Convention and of the PCT

Natio	nal Pa	tent (if other kind of protection or treatment desired, s	pecify o	on dott	ed line):
$\mathbf{X}$	$\mathbf{AL}$	Albania	X	LS	Lesotho
X	AM	Armenia	X	LT	Lithuania
$\mathbf{X}$	ΑT	Austria	X	LU	Luxembourg
$\boxtimes$	ΑÜ	Australia	$\mathbf{X}$	LV	Latvia
X	ΑZ	Azerbaijan	X	MD	Republic of Moldova
X	BA	Bosnia and Herzegovina	X	MG	<b>-</b>
X	BB	Barbados	X	MK	The former Yugoslav Republic of Macedonia
X	$\mathbf{BG}$	Bulgaria	$\boxtimes$	MN	Mongolia
$\boxtimes$	BR	Brazil	X	MW	Malawi
X	$\mathbf{BY}$	Belarus	$\times$	MX	Mexico
×	CA	Canada	X	NO	Norway
X	CH a	nd LI Switzerland and Liechtenstein	X	NZ	New Zealand
X	CN	China	X	PL	Poland
X	CU	Cuba	X	PT	Portugal
$\boxtimes$	$\mathbf{CZ}$	Czech Republic	X	RO	Romania
X	DE	Germany	$\boxtimes$	RU	Russian Federation
X	DK	Denmark	X	SD	Sudan
X	EE	Estonia	X	SE	Sweden
X	ES	Spain	X	SG	Singapore
$\boxtimes$	FI	Finland	X	SI	Slovenia
X	GB	United Kingdom	X	SK	Slovakia
X	GD	Grenada	X	SL	Sierra Leone
$\boxtimes$	GE	Georgia	$\boxtimes$	TJ	Taijikistan
X	GH	Ghana	$\boxtimes$	TM	Turkmenistan
$\boxtimes$	GM	Gambia	X	TR	Turkey
$\boxtimes$	HR	Croatia	X	TT	Trinidad and Tobago
X	HU	Hungary	X	UA	Ukraine
X	ID	Indonesia	×	UG	Uganda
X	IL	Israel	X	US	United States of America
X	IN	India	×	UΖ	Uzbekistan
X	IS	Iceland	X	VN	Viet Nam
X	JР	Japan	X	YU	Yugoslavia
X	KE	Kenya	$\boxtimes$	zw	Zimbabwe
$\boxtimes$	KG	Kyrgyzstan	Check	k boxe	s reserved for designating States (for the purposes of
X	KP	Demoratic People's Republic of Korea	a nati	onal p	atent) which have become party to the PCT after:
X	KR	Republic of Korea	issua	nce of	this sheet:
X	KZ	Kazakstan	X	ΑE	United Arab Emirates
X	LC	Saint Lucia	$\boxtimes$	ZA	South Africa
X	LK	Sri Lanka			
X	LR	Liberia			

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation of a designation consists of the filing of a notice specifying that designation and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.)



		Sile		0 1 00	1333
	Box No. VI PRIORITY	CLAIM	Further priority cla	ims are indicated in the	Supplemental Box
	Filing date	Number	W	here earlier application	is:
	of earlier application (day/month/year)	of earlier application	national application: country:	regional application:* regional Office	international application: receiving Office
	item(1) 02-06-1998 02 June 98	9801946-6	Sweden		
	item (2)				
	item (3)				
	(only if the earlier application receiving Office) identified  * Where the earlier application is	Lested to prepare and transmit to to to was filed with the Office which above as item(s): 9801946-6 is an ARIPO application, it is mandate of Industrial Property for which that ea	h for the purposes of the pry to indicate in the Suppl	e present international d emental Box at least one c	application is the
		ONAL SEARCHING AUTHOR		(1.1.1.e 4.10(0)(11)). See suf	рриетета Вох.
pojsé	Choice of International Search more international Searching Author international search, indicate the Aumay be used):  ISA / * JE	ing Authority (ISA) (If two or rities are competent to carry out the	Request to use resul	• •	
		T; LANGUAGE OF FILING			· · · · · · · · · · · · · · · · · · ·
	This international application con the following number of sheets: request:     description (excluding sequence listing part):     claims:     abstract:     drawings:     sequence listing part     of description:  Total number of sheets:  Box No. IX  SIGNATURE	This international application of the calculation o	neet bower of attorney bower of attorney; reference aning lack of signature at(s) identified in Box N cornational application in bons concerning deposite aramino acid sequence li copy of Office Action wedish	ence number, if any:  o. VI as item(s):  ito (language):  d microorganism or oth  isting in computer reada	er biological material ible form
	Date of actual receipt of the part of	Purported For receiv	ing Office use only	13	. Drawings
	international application:  3. Corrected date of actual received papers or drather burported international articles.	pt due to later but wings completing	ing Office use only 7 1999		received:
	Date of timely receipt of the corrections under PCT-Articl     International Searching Authority (if two or more are competen)	required to 11(2):	Transmittal of search ountil search fee is paid	copy delayed	not received:
	Date of receipt of the record copy	For Interne	ational Bureau use only		2 1.07,99)
	by the International Bureau:	'21 JULY 1999"		<b>.</b>	. L UI, JJ /

110520 BER 1998-06-01

#### TITEL:

10

30

35

5 Torrmoppstyg

#### TEKNISKT OMRÅDE:

Föreliggande uppfinning avser ett mopptyg som är avsedd för applicering på ett moppstativ och som skall användas för avtorkning av torra, smutsiga ytor till skillnad från vanliga mopptyg som är avsedda att doppas i ett vattentvättmedium och användas i vått skick.

#### TEKNIKENS STÂNDPUNKT:

Textilier har i alla tider använts för torkning 15 smutsborttagning av orena ytor. Textilierna har förekommit i olika utföranden men mest i form av vävnader. På senare tid har dessa utgjorts av fibrer av naturligt ursprung så som bomull, av konstgjorda fibrer såsom fibrer av polyamid och/eller polyester eller oftast blandningar av sådana 20 fibrer. Textilierna är oftast vävda eller stickade och det från en bottenväv att rengöringstyg har utstående öglor av olika storlek och gjorda i olika material. Ett exempel på ett sådant tyg som är avsett att fästas vid ett moppstativ och användas i vått skick 25 beskrivs i svenska patentet 94 03398-2.

#### TEKNISKA PROBLEMET:

Att rengöra exempelvis ett golv med hjälp av en våt mopp ger som regel ett tillfredsställande resultat vad beträffar renheten рå golvet. På detta golv emellertid en fuktfilm under någon tid och om man därför går på golvet strax efter våtrengöringen så kommer detta att snabbt smutsas ner igen samtidigt som man får fukt under skorna och kan smutsa ner andra ytor som är rena om man beträder dessa. Dessutom har man alltid den olägenheten våtrengöring att en hink eller liknande medbringas för tvättvätskan. Själva tvättvätskan består

2

också av en blandning av vatten och kemiska rengöringsmedel som är kostsamma och ibland kan ge allergiska reaktioner samt oangenäm lukt. Vatten "sliter" på golvmaterialet, utlöser emissioner från materialet, tränger ned i sprickor och ojämnheter och orsakar bakterie- och sportillväxt.

Smuts emulgeras i vatten vid städning med vatten. Kvarlämnas vatten på golvet kvarligger då också smutspartiklar även sedan vattnet avdunstat. Golvet blir helt enkelt inte rent.

#### LÖSNINGEN:

5

10

15

20

30

35

Det har därför alltid varit ett starkt önskemål att kunna eller liknande med så rengöra en golvyta rengöringsmetod som möjligt och man har enligt föreliggande uppfinning åstadkommit ett torrmoppstyg för applicering på ett moppstativ och avsett att torka av torra, smutsiga ytor vilket torrmoppstyg kännetecknas av att det består av mikro- eller ultramikrofiber, eller filament med en finlek av 0,60-0,25 DTEX per fiber eller filament och är vävt eller stickat med öglor på ena eller båda sidorna av tyget med en öglehöjd på cirka 3-9 mm.

Enligt uppfinningen utgöres öglorna av polyamid- eller polyesterfiber i olika förhållanden eller en blandning av dessa fibrer i en och samma ögla.

Filamenten bör enligt uppfinningen ej ha runda tvärsnitt utan företrädesvis ha en så rektangulär form som möjligt med platta sidor.

#### DETALJERAD BESKRIVNING AV UPPFINNINGEN:

Torrmopptyget enligt föreliggande uppfinning är avsett att appliceras på ett moppstativ av något slag för avtorkning av smutsiga ytor. Själva moppstativet ingår inte i

uppfinningen och det kan utgöras av vilket moppstativ som är givetvis möjligt att använda torrmoppstyg även utan något stativ och helt enkelt torka av torra, smutsiga ytor med tyget under användning av handen. Det är även självklart att om vatten förefinnas på ytan så är det fullt möjligt att med samma goda verkan använda tyget enligt uppfinningen, särskilt då tyget är starkt fuktabsorberande.

5

20

30

35

Tyget består av en bottenväv med utstående öglor på ena 10 vävt eller båda sidorna. Tyget kan vara företrädelsevis stickat så att öglorna blir fasta och ej går att dra ut. Det material som öglorna skall bestå av utgöres av mikro- eller ultramikrofiber eller filament med en finlek på 0,60-0,25 DTEX per fiber eller filament. Med 15 måttet DTEX menas att 1 DTEX avser en fiber med en längd av 10000 meter och som väger 1 gram.

Materialet i fibrerna är enligt uppfinningen syntetiskt och i öglorna kan det ingå två olika material, det vill säga ett antal av fibrerna kan exempelvis vara av polyamid medan de övriga är av polyester. Det är enligt uppfinningen också möjligt att de enskilda öglorna kan bestå av en blandning av polyamid och polyester samt även innefatta naturligt 25 förekommande fiber.

Filamentens tvärsnitt bör enligt uppfinningen ej vara runt utan ha platta sidor, helst sneda med så rektangulär form som möjligt varigenom fiberytan blir så stor som möjligt.

Enligt uppfinningen skall öglorna ha en höjd på minst 3 mm och högst 9 mm. Det mest fördelaktiga måttet är i trakterna av 6-8 mm. Varje ögla skall ha ett mycket stort antal fibrer. Tätheten av öglorna, det vill säga antalet öglor per ytenhet och garntjockleken samt öglehöjden,

4

öglorna vid tygets tryckning att så underlaget inte lägger sig ned utan förblir upprättstående eller lutar högst 45° mot en tänkt lodlinje. Den kraft som avses i detta fall är en vanlig vikt av moppstativet samt någon kraft från operatören som håller i moppen och för den framåt. Denna högsta lutning innebär att den mot underlaget delen i största utsträckning anliggande tvärliggande fibrer. Genom fibrernas läge och platthet och täthet över hela moppytan uppkommer då en fösande effekt på andra föroreningar. Partiklarna smutspartiklar eller attraheras och ackumuleras på fiberytorna samt fibrerna och inne i öglorna. Den relativt höga öglehöjden med den samlade stora fiberytan bidrar till förmågan att upplagra en stor mängd smuts eller smutspartiklar.

15

20

25

30

35

10

5

Genom mikrofibrernas mycket stora mjukhet, öglelängden och ögletätheten och fibrernas finlek och ytstorlek kommer rengöringseffektiviteten att bli mycket hög. Även om fibrerna är mjuka och öglorna är långa så kommer ändå öglorna att ej lägga sig ned genom att öglorna, på grund av den höga ögletätheten, kommer att stödja sig mot varandra. Då varje yta är mer eller mindre ojämn och fibrerna i mopptyget anpassar sig till underlagets ojämnheter och tränger ner i även mycket små håligheter, kan tyget därifrån medföra och ackumulera också mycket små partiklar som deponeras i ojämnheterna.

Genom kombinationen av de olika parametrarna enligt föreliggande uppfinning har man således åstadkommit ett torrmopptyg av mycket hög kvalitet och med mycket stor rengöringsförmåga.

Moppen med sin stora absorptionsförmåga på vätskor och partiklar skulle i princip även kunna användas för upptorkning med samtidig absorption av såväl vattnet som



däri emulgerad smuts.

Uppfinningen är inte begränsad till den beskrivna utföringsformen utan den kan varieras på olika sätt inom patentkravens ram.

6

110520 BER 1998-05-01

#### PATENTKRAV:

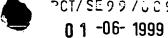
5

Torrmoppstyg för applicering på ett moppstativ och 1. avsett att torka av torra, smutsiga ytor,

kännetecknat av,

- att det består av mikro- eller ultramikrofiber eller filament med en finlek på 0,60-0,25 DTEX per fiber eller 10 filament och är vävt eller stickat med öglor på ena eller båda sidorna av tyget med en öglehöjd av 3-9 mm.
  - Torrmoppstyg enligt kravet 1, 2.
- kännetecknat 15 att öglorna utgöres a polyamid- eller polyesterfiber eller en blandning av dessa fibrer i en och samma och ögla.
  - Torrmoppstyg enlig kravet 1 eller 2,
- kännetecknat av, 20 har runda tvärsnitt utan att filamenten еj har företrädesvis en rektangulär form med platta sidor.





110520 BER 1998-05-01

#### SAMMANDRAG:

Föreliggande uppfinning avser 5 ett torrmoppstyg applicering på ett moppstativ och det är avsett att torka av torra, smutsiga ytor. Det kännetecknas av att det består av mikro- eller ultramikrofiber eller filament med en finlek på 0,60-0,25 DTEX per fiber eller filament och är vävt eller stickat med öglor på ena eller båda sidorna av 10 tyget med en öglehöjd av 3-9 mm.

## INTERNATIONAL SEARCH REPORT

Form PCT ISA 210 (second sheet) (July 1992)

International application No.
PCT/SF 99/00950

			FC1/3E 33/0	
A. CLASSIFICATIO	N OF SUBJECT MATTER			
IPC6: A47L 13/	16, A47L 13/20 al Patent Classification (IPC) or to both na	auonal classification and	d IPC	
B. FIELDS SEARCH	IED			
Min:mum documentation	searched (classification system followed b	y classification symbols	3)	
IPC6: A47L		-		
Documentation searched	other than minimum documentation to the	extent that such documents	ments are included i	in the fields searched
SE,DK,FI,NO cla	asses as above			
Electronic data base cons	uited during the international search (name	of data base and, whe	re pracucable, scarc	n terms used)
WPI				
<del></del>	ONSIDERED TO BE RELEVANT			
Category Citation of	document, with indication, where app	propriate of the relev	vant nassages	Relevant to claim No.
			valit hassages	Reievant to clamit 145.
X WO 9610	0946 Al (ACTUELLE TRICOT I April 1996 (18.04.96), pa	BORAS AB),		1-3
	ne 25 - line 34; page 6, l		29;	
	ge 7, line 15 - line 17		•	
				,
X DE 2970	06500 U1 (DICKEL, KLAUS ET 1.07.97), claims 3,6	f AL), 31 July	1997	1-3
A SE 431:	158 B (BELE RESEARCH AB), 3.01.84), claim 7	23 January 198	84	1
Further documen	ts are listed in the continuation of Box	C. X See pa	atent family annex	
* Special categories of of "A" document defining the				ernational filing date or priority cation but cited to understand
to be of particular rele		the principle or	theory underlying the	וחיפותים
"L" document which may t	ablished on or after the international filing date throw doubts on priority claim(s) or which is	considered nove		claimed invention cannot be red to involve an inventive
special reason (as spec		"Y" document of pa	rucular relevance: the	claimed invention cannot be
means	an oral disclosure, use, exhibition or other	combined with	one or more other such	when the document is a documents, such combination
"P" document published pr the priority cate claim	nor to the international filing date but later than		o a person skilled in the ber of the same patent	
Date of the actual con	npietion of the international search	Date of mailing of	the international s	earch report
			1 8	8 <b>-</b> 10- <b>1999</b>
10 Sept 1999 Name and mailing add	dress of the ISA	Authorized officer		
Swedish Patent Offi		Thursday		•
Box 5055, S-102 42		Marianne Dick		
Facsimile No. + 46 8	000 UZ 80	Telephone No. +	. 40 8 187 73 NN	

## INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

02/08/99

PCT/SE 99/00950

Patent document cited in search report			Publication date		Patent family member(s)		Publication date
WO	9610946	A1	18/04/96	AT	179581	T	15/05/99
				AU	36 <b>90295</b>	A	02/05/96
				CN	1166778	A	03/12/97
				DE	69509542	D	00/00/00
				EP	0784446	A,B	23/07/97
				FI	971416	A	04/04/97
				JP	10506820	T	07/07/98
				NO	9 <b>71570</b>	A	06/06/97
				SE	503414	С	10/06/96
				SE	9403398	A	08/04/96
				US	5804274	A	08/09/98
DE	29706500	U1	31/07/97	NON	E		<u>-</u>
SE	431158	В	23/01/84	SE	8004718	A	27/12/81

#### WORLD INTELLECTUAL PROPERTY ORGANIZATION International Bureau



9 December 1999 (09.12.99)

### INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

SE

(51) International Patent Classification 6: (11) International Publication Number: **A1** A47L 13/16, 13/20 (43) International Publication Date:

WO 99/62393

PCT/SE99/00950 (21) International Application Number: (22) International Filing Date: 1 June 1999 (01.06.99)

2 June 1998 (02.06.98)

(71) Applicant (for all designated States except US): ACT -ADVANCED CLEANING TECHNICS AB [SE/SE]; P.O. Box 10, S-515 21 Viskafors (SE).

(72) Inventor; and

(30) Priority Data:

9801946-6

(75) Inventor/Applicant (for US only): NORDIN, Rudolf [SE/SE]; Hyggesgatan 7, S-502 57 Borås (SE).

(74) Agents: ANDERSSON, Per et al.; Albihns Patentbyrå Göteborg AB, P.O. Box 142, S-401 22 Göteborg (SE).

(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR. BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

#### Published

With international search report.

Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.

In English translation (filed in Swedish).

(54) Title: CLOTH FOR A DRY MOP

#### (57) Abstract

The invention being presented concerns a dry-mop fabric for attachment to a mop handle. It is designed to clean dry, soiled surfaces. It is distinguished by consisting of micro- or ultramicro-fibre or filament with a count of 0.60-0.25 dtex per fibre or filament and by being woven or knitted with loops on one or both sides of the fabric, with a loop height of 3-9 mm.

## FOR THE PURPOSES OF INFORMATION ONLY

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL AM AT	Armenia	121	=				
AT		Fl	Finland	LT	Lithuania	SK	Slovakia
	Austria	FR	France	LU	Luxembourg	SN	Senegal
ΑÜ	Australia	GA	Gabon	LV	Latvia	SZ	Swaziland
AZ	Azerbaijan	GB	United Kingdom	MC	Monaco	`TD	Chad
ВА	Bosnia and Herzegovina	GE	Georgia	MD	Republic of Moldova	TG	Togo
BB	Barbados	GH	Ghana	MG	Madagascar	TJ	Tajikistan
BE	Belgium	GN	Guinea	MK	The former Yugoslav	TM	Turkmenistan
BF	Burkina Faso	GR	Greece		Republic of Macedonia	TR	Turkey
BG	Bulgaria	HU	Hungary	ML	Mali	TT	Trinidad and Tobago
BJ	Benin	IE	Ireland	MN	Mongolia	UA	Ukraine
BR	Brazil	IĻ	Israe!	MR	Mauritania	UG	Uganda
BY	Belarus	IS	Iceland	MW	Malawi	US	United States of America
CA	Canada	IT	Italy	MX	Mexico	UZ	Uzbekistan
CF	Central African Republic	JP	Japan	NE	Niger	VN	Viet Nam
CG	Congo	KE	Kenya	NL	Netherlands	YU	Yugoslavia
СН	Switzerland	KG	Kyrgyzstan	NO	Norway	zw	Zimbabwe
CI	Côte d'Ivoire	KP	Democratic People's	NZ	New Zealand		
CM	Cameroon		Republic of Korea	PL	Poland		
CN	China	KR	Republic of Korea	PT	Portugal		
CU	Cuba	KZ	Kazakstan	RO	Romania		
CZ	Czech Republic	LC	Saint Lucia	RU	Russian Federation		
DE	Germany	LI	Liechtenstein	SD	Sudan		
DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

5

CLOTH FOR A DRY MOP.

10

15

#### TECHNICAL FIELD:

The present invention concerns a mop fabric that is designed for attachment to a mop handle and to be used to clean dry, soiled surfaces, in contrast to regular mop fabric, which is designed for immersion in a water-based washing medium and is used wet.

#### BACKGROUND:

Textiles have always been used for cleaning and removing 20 dirt from soiled surfaces. These textiles have been available in various qualities, but mostly in the form of weaves. In recent times, they have consisted of fibres of natural origin such as cotton, artificial such as polyamide and/or polyester, or most 25 commonly blends of such fibres. These textiles are most often woven or knitted. It is usual for cleaning fabrics have different-sized loops, made from materials, which protrude from the ground fabric. An example of the type of fabric that is designed to be 30 attached to a mop handle and used wet is described in Swedish patent no. 94 03398-2.

#### THE TECHNICAL PROBLEM:

As a rule, satisfactory results are obtained with regard to the actual cleanliness of a floor when a wet mop is used to clean it. However, a film of moisture remains on the floor for some time and if anyone walks on the floor

2

soon after it has been cleaned, it will quickly become soiled again. At the same time, the moisture adheres to the soles of the shoes and could soil other, clean surfaces if they are trodden on. In addition, there is always the inconvenience of having to use a bucket or similar container in which to carry the washing liquid when the wet-cleaning method is used. The washing liquid also consists of a mixture of water and chemical detergent, which are costly and can sometimes cause allergic reactions as well as an unpleasant odour. Water "wears out" the floor material, triggers emissions from the material, seeps into cracks and uneven surfaces and causes the growth of bacteria and mildew.

Dirt emulsifies in water that is used for cleaning. If 20 any of this water is left on the floor, the dirt particles will remain behind once the water has evaporated. Quite simply, the floor will not be clean.

#### THE SOLUTION:

25 There has therefore always been a strong desire to be able to clean a floor or similar surface by using as dry a cleaning method as possible. As per the invention being presented, a dry-mop fabric has now been produced for attachment to a mop handle and to be used to clean 30 dry, soiled surfaces. This dry-mop fabric distinguished by it consisting of micro- or ultramicrofibre or filament with a count of 0.60-0.25 DTEX per fibre or filament and by it being woven or knitted with loops on one or both sides of the fabric, with a loop 35 height of approximately 3-9 mm.

5 As per the invention, the loops are made of polyamide or polyester fibre in various proportions, or a blend of these fibres in one and the same loop.

3

As per the invention, the cross-section of the filament should not be round, but preferably have as rectangular a shape as possible, with flat sides.

### DETAILED DESCRIPTION OF THE INVENTION:

10

dry-mop fabric, as per the invention being presented, is designed for attachment to any mop handle 15 and to be used to clean soiled surfaces. The mop handle is not included in the invention; any mop handle can be used. It is of course also possible to use this dry-mop fabric without a handle by simply using the fabric on its own to clean dry, soiled surfaces by hand. If there is any water on the surface, it is naturally also 20 possible to use the fabric, as per the invention, to the same good effect - especially since the fabric extremely absorbent.

- The fabric consists of a ground fabric with protruding loops on one or both sides. The fabric can be woven or preferably knitted, so that the loops are firm and cannot be pulled out. The material comprising the loops should consist of micro- or ultramicro-fibre or filament with a count of 0.60-0.25 DTEX per fibre or filament. Dtex is a unit of measurement, where 1 DTEX represents one fibre with a length of 1 000 metres and a weight of 1 gram.
- 35 As per the invention, the material in the fibres is synthetic and the loops may consist of two different materials, i.e. a number of the fibres could be

polyamide, while the remainder could be polyester, for instance. As per the invention, it is also possible that the individual loops could consist of a blend of polyamide and polyester as well as contain natural fibres.

10

As per the invention, the cross-section of the filaments should not be round, but have flat sides, preferably slanting and with as rectangular a shape as possible, whereby the fibre surface will be as large as possible.

15

20

25

30

35

As per the invention, the loops should be at least 3 mm and no more than 9 mm in height. The most advantageous measurement is in the region of 6-8 mm. Each loop must consist of a large number of fibres. The closeness of the loops, i.e. the number of loops per unit of area, the yarn thickness and the loop height must proportioned so that when the fabric is pressed against a surface underneath it the loops remain upright or lie at an angle of no more than 45° to an imaginary vertical line. The force indicated in this instance is the normal weight of the mop handle plus some strength exerted by the operator, who holds the mop and moves it forwards. This maximum angle means that the part which is contact with the surface underneath largely consists of transverse fibres. Because of the position, flatness and closeness of the fibres across the entire surface of the mop, a propulsive effect on the dirt particles or other impurities arises. The particles are attracted to and accumulate on the fibre surfaces, as well as between the fibres and inside the loops. The relatively high loop height combined with the collectively large fibre

5 surface contributes to its ability to accumulate a large quantity of grime or dirt particles.

The cleaning action is highly effective because of the microfibres' extreme softness, the length and closeness of the loops and the count and surface dimensions of the fibres. Even though the fibres are soft and the loops are long, the loops will still not be flattened because they support each other owing to their closeness. Since every surface is more or less uneven and the fibres in the mop fabric adapt to the unevenness of the surface underneath and force their way into even extremely small hollows, the fabric can also remove and accumulate the very small particles that are deposited in these uneven areas.

20

15

10

By combining the various parameters as per the invention being presented, an extremely high-quality dry-mop fabric with extensive cleaning ability has been produced.

25

Because of its great ability to absorb liquids and particles it should, in principle, also be possible to use the mop for drying up liquid, with simultaneous absorption of both the water and any emulsified dirt contained in it.

The invention is not limited to the design described, but can be varied in different ways within the scope of the patent claims.

30

6

5

#### 10 PATENT CLAIMS:

- 1. Dry-mop fabric for attachment to a mop handle and designed to clean dry, soiled surfaces, characterized in it consisting of micro- or ultramicro15 fibre or filament with a count of 0.60-0.25 DTEX per fibre or filament and by it being woven or knitted with loops on one or both sides of the fabric, with a loop height of 3-9 mm.
- 20 2. Dry-mop fabric according to patent claim 1, characterized in the loops being made of polyamide or polyester fibre or a blend of these fibres in one and the same loop.
- 25 3. Dry-mop fabric as per patent claim 1 or 2, characterized in the cross-section of the filament not being round, but preferably having a rectangular shape with flat sides.

l

### INTERNATIONAL SEARCH REPORT

International application No.

PCT/SE 99/00950

A. CLASSIFICATION OF SUBJECT MATTER		
IPC6: A47L 13/16, A47L 13/20 According to International Patent Classification (IPC) or to both nat	uonal ciassification and IPC	
B. FIELDS SEARCHED	<del></del>	
Minimum documentation searched (classification system followed by	classification symbols)	
IPC6: A47L		
Documentation searched other than minimum documentation to the	extent that such documents are included in	the fields searched
SE,DK,FI,NO classes as above		· - <del>-</del>
Electronic data base consulted during the international search (name	of data base and, where practicable, scarci	n terms used)
WPI		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category* Citation of document, with indication, where app	ropriate, of the relevant passages	Relevant to claim No.
X WO 9610946 A1 (ACTUELLE TRICOT I 18 April 1996 (18.04.96), pa line 25 - line 34; page 6, 1 page 7, line 15 - line 17	ge 5,	1-3
X DE 29706500 U1 (DICKEL, KLAUS ET (31.07.97), claims 3,6	AL), 31 July 1997	1-3
A SE 431158 B (BELE RESEARCH AB), (23.01.84), claim 7	23 January 1984	1
Further documents are listed in the continuation of Box	. C. X See patent family annex	ζ.
• Special categories of cited documents:  'A' document defining the general state of the art which is not considered	T' later document published after the int date and not in condict with the appli the principle or theory underlying the	cation but cited to understand
"E" eriter document but published on or after the international filing date "L" document which may throw doubts on priority claim(s) or which is	"X" document of particular relevance: the considered novel or cannot be considered when the document is taken along	claimed invention cannot be red to involve an inventive
cited to establish the publication date of another citation of other special reason (as specified)  Of document referring to an oral disclosure, use, exhibition or other means	"Y" document of particular relevance: the considered to involve an inventive six combined with one or more other suc-	claimed invention cannot be p when the document is
'P' document published prior to the international filing date but later than the priority date claimed	being obvious to a person skilled in the "&" document member of the same patent	ne art
Date of the actual completion of the international search	Date of mailing of the international	· · · · · · · · · · · · · · · · · · ·
	1	<b>8 -</b> 10- <b>1999</b>
Name and mailing address of the ISA.	Authorized officer	
Swedish Patent Office		·
Box 5055, S-102 42 STOCKHOLM	Marianne Dickman / JA A Telephone No. +46 8 782 25 00	

## INTERNATIONAL SEARCH REPORT

Information on patent family members

02/08/99

International application No.
PCT/SE 99/00950

Patent document cited in search report		Publication date		Patent family member(s)		Publication date	
WO 961	0946	Al	18/04/96	AT AU CN DE EP FI JP NO SE SE US	179581 7 3690295 7 1166778 7 69509542 1 0784446 7 971416 7 10506820 7 971570 7 503414 0 9403398 7 5804274 7	A A D A,B A T A C	15/05/99 02/05/96 03/12/97 00/00/00 23/07/97 04/04/97 07/07/98 06/06/97 10/06/96 08/04/96 08/09/98
DE 2970	6500	U1	31/07/97	NON	E		
SE 43	1158	В	23/01/84	SE	8 <b>004718</b> A	 4	27/12/81

Form PCT/ISA/210 (patent family annex) (July 1992)